

In the Claims

Please amend claims 10, 13, 14, 18, 19, 21, 23, 27 and 28 as follows:

1 1-9. (Canceled.)

1 10. (Currently Amended) An apparatus for selectively forming a silicide
2 comprising:

3 a semiconductor substrate having a surface, a portion of said surface having
4 silicon thereon and a portion of said surface having an insulator thereon,
5 said surface further having an oxide thereover;

6 a mainframe housing chamber ~~comprising a plurality of at least an interior~~
7 cleaning chambers, ~~at least one interior chamber adapted to remove for~~
8 removing said oxide from said surface of said substrate while under a
9 continuous vacuum, and ~~at least one an interior deposition chamber~~
10 ~~adapted to deposit for depositing~~ a metal on said surface of said substrate
11 while under said continuous vacuum;

12 at least one workpiece holder within said mainframe chamber adapted to hold
13 said substrate;

14 at least one pump adapted to evacuate said mainframe chamber to maintain
15 said continuous vacuum in said mainframe chamber;

16 at least one line operatively connected between said at least one pump and
 17 said mainframe chamber for evacuating said mainframe chamber;
 18 at least one input line adapted to provide a chemical agent into said interior
 19 cleaning chamber within said mainframe while ~~in~~under said continuous
 20 vacuum, said chemical agent adapted to remove said oxide from said
 21 surface of said substrate;
 22 at least one output line adapted to remove said cleaning agent and said
 23 removed oxide from said interior cleaning chamber and said mainframe;
 24 a reactor in said deposition chamber within said mainframe, said reactor
 25 adapted to deposit said metal onto said silicon and insulator portions on
 26 said substrate surface while under~~in~~ said continuous vacuum;
 27 a heating element, said heating element adapted to heat said substrate to an
 28 elevated temperature to form a silicide on said substrate surface over the
 29 silicon portion by reaction with the metal deposited thereon, while the
 30 metal remains unreacted over the insulator portion; and
 31 an etchant to remove unreacted metal from the substrate surface while leaving
 32 said silicide over portions of said semiconductor substrate.

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1 11. (Canceled.)

1 12. (Canceled.)

1 13. (Currently Amended) The apparatus of claim 10 further comprising ~~at least~~
 2 ~~one~~ an interior heating chamber within said mainframe for heating ~~adapted to heat~~
 3 ~~said substrate~~ to form said silicide on said substrate surface.

1 14. (Currently Amended) The apparatus of claim ~~13~~ 14 wherein said apparatus
 2 is adapted to transfer said substrate between said interior cleaning chamber
 3 ~~adapted to remove said oxide from said surface of said substrate and said interior~~
 4 deposition chamber ~~adapted to deposit said metal on said surface of said substrate~~
 5 without breaking said continuous vacuum.

1 15. (Original) The apparatus of claim 14 wherein said substrate is a silicon
 2 substrate.

1 16. (Original) The apparatus of claim 15 wherein said apparatus is adapted to
 2 remove said oxide from said surface of said substrate using a nitrogen trifluoride
 3 cleaning process.

1 17. (Original) The apparatus of claim 16 wherein said metal is cobalt.

1 18. (Currently Amended) The apparatus of claim 17 wherein said interior
 2 deposition chamber ~~adapted to deposit said metal on said surface of said substrate~~
 3 is a vapor sputtering device.

1 19. (Currently Amended) The apparatus of claim 18 wherein said apparatus is
 2 further adapted to transfer said substrate to said interior heating chamber from said
 3 interior ~~metal~~ deposition chamber.

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 1 20. (Original) The apparatus of claim 19 wherein said silicide is cobalt silicide.

1 21. (Currently Amended) A system for selectively forming a silicide on a
 2 surface of a semiconductor substrate comprising:

3 said semiconductor substrate having said surface, a portion of said surface
 4 having silicon thereon and a portion of said surface having an insulator
 5 thereon, said surface further having an oxide thereover;

6 a ~~chamber~~ mainframe comprising a ~~plurality of~~ at least an interior chambers, at
 7 ~~least one interior~~ cleaning chamber adapted to remove said oxide from said
 8 surface of said substrate while under a continuous vacuum, and at least ~~one~~
 9 an interior deposition chamber adapted to deposit a metal on said surface
 10 of said substrate while under said continuous vacuum;

11 at least one pump adapted to evacuate said mainframe chamber to maintain
 12 said continuous vacuum in said mainframe chamber;
 13 a chemical agent input into said interior cleaning chamber within said
 14 mainframe, said chemical agent for removing ~~adapted to remove~~ said oxide
 15 from said surface of said substrate while ~~said chamber is under~~ said
 16 continuous vacuum;
 17 a reactor in said deposition chamber within said mainframe, said reactor for
 18 depositing ~~adapted to deposit~~ said metal onto said silicon and insulator
 19 portions on said substrate surface while under said continuous vacuum;
 20 a heating element, said heating element adapted to heat said substrate to an
 21 elevated temperature to form a silicide on said substrate surface over the
 22 silicon portion by reaction with the metal deposited thereon, while the
 23 metal remains unreacted over the insulator portion; and
 24 an etchant to remove unreacted metal from the substrate surface while leaving
 25 said silicide over portions of said semiconductor substrate.

1 22. (Canceled.)

1 23. (Currently Amended) The system of claim 21 wherein said apparatus is
 2 adapted to transfer said substrate between said interior cleaning chamber ~~adapted~~
 3 ~~to remove said oxide from said surface of said substrate~~ and said interior

4 | deposition chamber ~~adapted to deposit said metal on said surface of said substrate~~
5 | without breaking said continuous vacuum.

1 | 24. (Previously Added) The system of claim 21 wherein said metal is cobalt.

1 | 25. (Previously Added) The system of claim 21 wherein said chemical agent is
2 | selected from the group consisting of nitrogen trifluoride and argon.

1 | 26. (Previously Added) The system of claim 21 wherein said reactor for
2 | depositing said metal on said surface of said substrate is a vapor sputtering device.

1 | 27. (Currently Amended) The system of claim 21 wherein said heating element
2 | is enoused ~~resides within said~~ mainframe ~~chamber~~.

1 | 28. (Currently Amended) The system of claim 21 wherein said heating element
2 | is external thereto said mainframe ~~chamber~~.

1 | 29. (Previously Added) The system of claim 21 wherein said unreacted cobalt
2 | is removed using an etchant comprising hydrogen peroxide and sulfuric acid.

1 | 30. (Canceled.)
